User Manual

Bluevolt Link CAN Bus Controller

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Introduction to the Bluevolt Link CAN Bus Controller

Welcome: Thank you for choosing the Bluevolt Link CAN Bus Controller. This user manual is crafted to provide you with a comprehensive guide to setting up, operating, and maximising the benefits of your new device.

Overview of the Bluevolt Link

The Bluevolt Link represents a cutting-edge solution that allows smooth CAN Bus communication between Bluevolt batteries and compatible inverter-chargers. This design innovation contributes to the following:

1. Simplified Architecture:
a. By implementing a separate CAN Bus controller, the system requires only a single CAN Bus chip.
b. This unique configuration is one of several Bluevolt innovations that contribute to the affordability and efficiency of our systems.

2. Advanced Communication Capabilities:
a. Precise State of Charge (SoC): Enables real-time access to the accurate state of charge of the batteries in the system.
b. Detailed Battery Information: Offers insights at both the pack and cell levels, as well as critical battery health information.
c. Bluevolt Charging Algorithm: Controls the charging of your batteries, ensuring optimal performance and longevity.

3. Regularly Updated Manual:
a. Please verify that you have the latest version of this manual.
b. We continually update our documentation to reflect the most accurate and current information.

Conclusion
The Bluevolt Link CAN Bus Controller is a testament to our commitment to innovation, quality, and customer satisfaction. Whether you are a new user or an experienced professional, this manual is designed to assist you every step of the way.

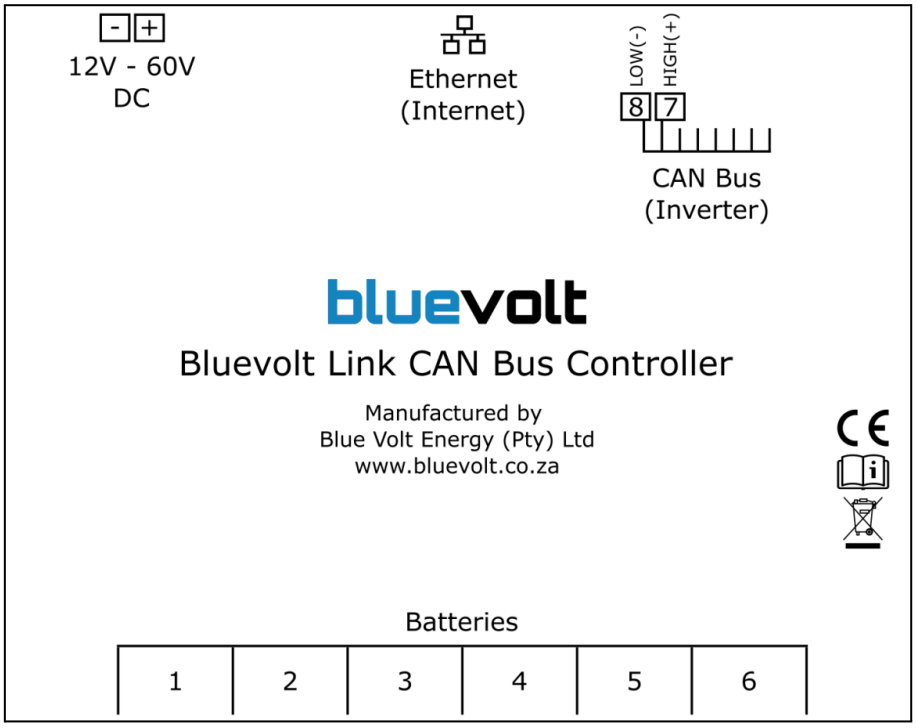
For additional support, technical specifications, or to download the latest version of this manual, please refer to the accompanying documentation or visit our website www.bluevolt.co.za

Installation

Interfaces

Bluevolt Link Interfaces

Port	Connectors
DC power supply 12VDC to 60VDC	**2x Screw terminals**
Ethernet (internet)	**1x RJ45**
CAN Bus	**1x RJ45**
Batteries	**6x RJ45**



Bluevolt Link port layout

Installation Procedure for the Bluevolt Link CAN Bus Controller

Introduction: This section provides a step-by-step guide to the installation of your Bluevolt Link CAN Bus Controller. Please read the instructions carefully and follow them in the sequence provided to ensure a successful installation.

Mounting and Connection Process

1. Wall Mounting:
a. Locate the two mounting holes within the enclosure.
b. Securely mount the Bluevolt Link to the wall using suitable mounting hardware.

2. DC Bus Connection:
a. Identify the input power supply pins.
b. Use the provided screw terminals to connect the DC bus to the input pins.

3. LAN Cable Connection:
a. Connect an RJ45 LAN cable from the Bluevolt Link to your router to enable network communication.

4. CAN Bus Port Connection:
a. Use an RJ45 cable with the correct pin configuration.
b. Connect the cable to the CAN bus port on the Bluevolt Link.

Pin Configuration Guidelines

Note:

For Victron Systems:
a. A regular straight network or LAN cable is required.

For Other Inverter-Charger Brands:
a. Depending on the pin configuration, a custom-made cable may be necessary.
b. Consult the accompanying documentation or our online support for specific cable requirements.

Accessing Battery Status on the Bluevolt Link CAN Bus Controller

Introduction: This section outlines the procedure for accessing detailed battery status down to the cell level via the web interface of the Bluevolt Link CAN Bus controller.

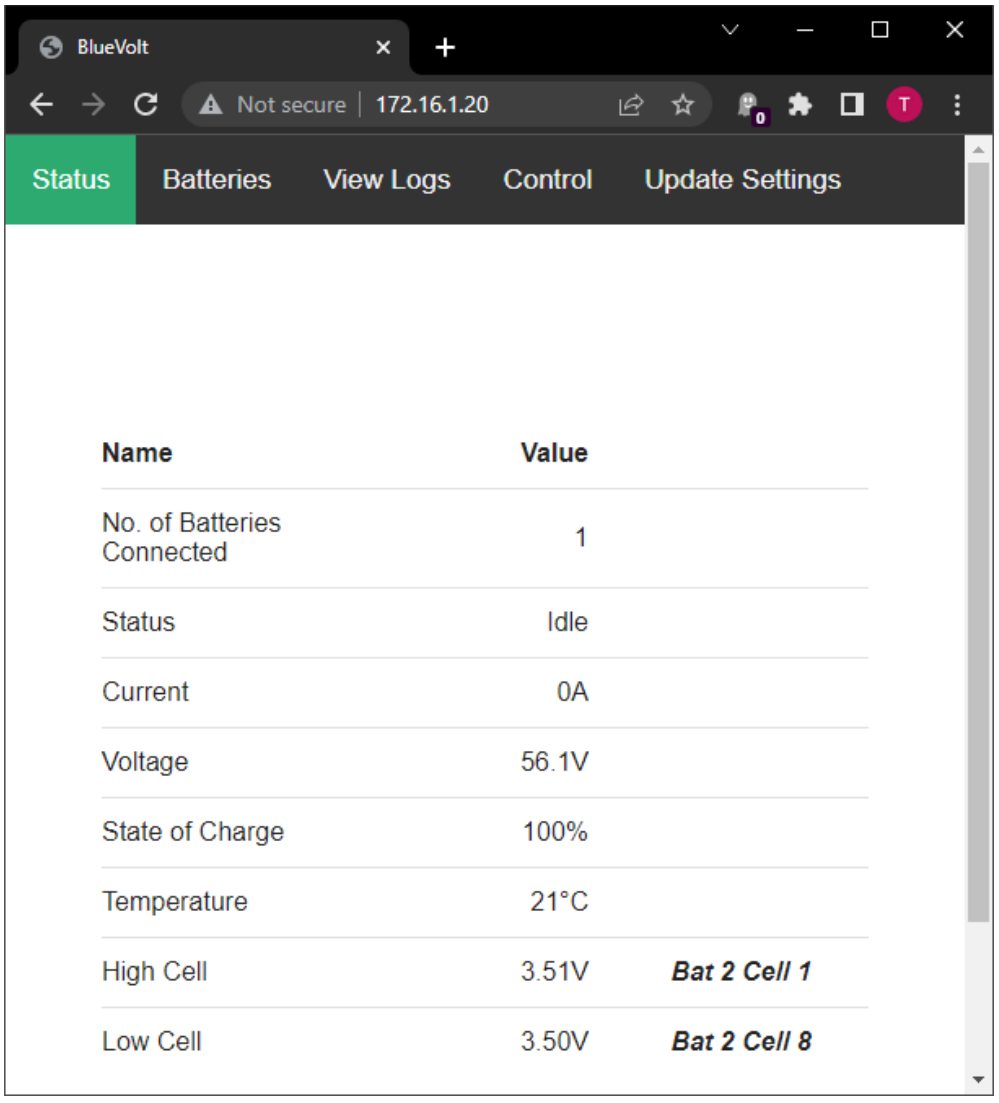
1. Device Installation: Ensure that your Bluevolt Link CAN Bus controller is fully installed and powered up.

2. Network Connection: Confirm that the device is connected to the same network as your computer.

3. Accessing Web Interface:
a. Open a web browser on a connected device.
b. Type the IP address 172.16.1.21 into the address bar and press Enter.

Note: If the page fails to load, it may be necessary to change the IP address of the Bluevolt Link CAN Bus controller to match your network configuration.

Changing the IP Address: Please refer to the procedure at the end of this document for detailed instructions on how to change the IP address of your Bluevolt Link CAN Bus controller.



Bluevolt Link web interface

Setup with Victron

Introduction: This section delineates the procedure for configuring the Bluevolt Link CAN Bus Controller to work seamlessly with a Victron system. Please adhere to the step-by-step instructions to ensure proper setup.

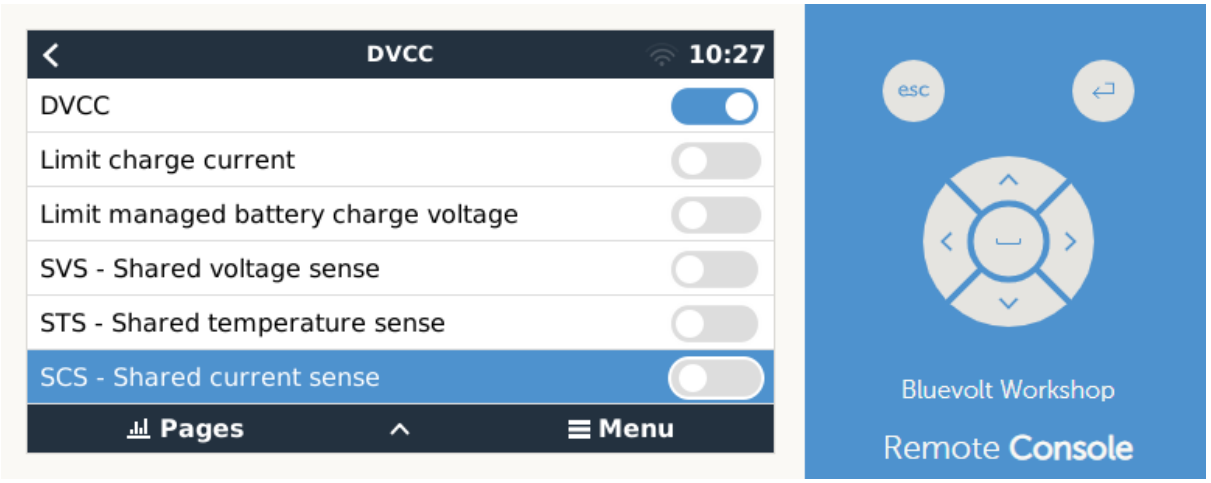
Connection and Configuration Process

1. CAN Bus Port Connection:
a. Locate the CAN Bus port on the Bluevolt Link.
b. Connect it to the VE.CAN port on the Victron GX device.

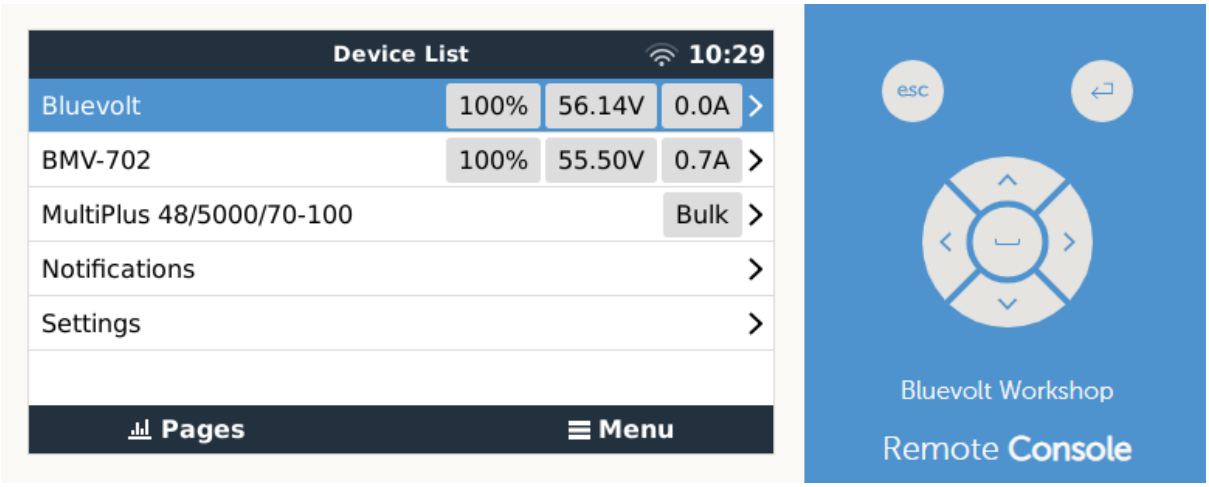
2. Termination Resistor Placement:
a. Identify the spare VE.CAN port on the Victron GX device.
b. Insert a termination resistor into the spare port to complete the connection.

3. Bit Rate Configuration:
a. On the Victron GX device, navigate to Settings > Services > VE.CAN port (ensure not to select the CAN 2 port).
b. Access CAN-Bus profile > CAN Bus BMS (500 kbit/s) to set the bit rate.

4. DVCC Enabling and Adjustment:
a. Enable DVCC by going to Settings > DVCC on the Victron GX device.
b. The DVCC settings can be further customised in the Victron Remote Console as per your requirements.



DVCC Settings in the Victron Remote Console



The appearance of connected Bluevolt batteries in the Victron Remote Console

Troubleshooting: Resetting the Bluevolt Link CAN Bus Controller

Introduction: If you are experiencing difficulties with your Bluevolt Link CAN Bus controller, you may need to reset the device. This section details the reset procedure.

1. Identify Reset Button: Locate the blue reset button on the side of the Bluevolt Link CAN Bus controller.

2. Execute Reset:
a. Press the blue reset button.
b. Observe the yellow and green lights on the Ethernet port; they should blink once simultaneously, signalling that the reset has been initiated.

3. Allow Reboot: The Bluevolt Link should complete rebooting within several seconds.

Note: If you require further assistance or detailed technical support, please refer to the provided documentation or contact your reseller or installer. Our network of certified professionals stands ready to support your needs.

Your satisfaction is our priority, and our team is committed to ensuring the optimal performance of your Bluevolt Link CAN Bus controller. If you have any additional questions or need further assistance, don't hesitate to reach out to your support network.

Compatibility and Support for Inverter Chargers with the Bluevolt Link CAN Bus Controller

Introduction: The Bluevolt Link CAN Bus Controller is engineered to facilitate seamless integration with an extensive array of inverter charger brands that utilise the Pylon protocol. This section provides an overview of compatibility and support details.

1. Tested Compatibility:
a. Victron Inverters: The Bluevolt Link has been extensively tested for compatibility with Victron inverters.
b. Sunsynk Inverters: Likewise, thorough testing with Sunsynk inverters has been conducted to ensure optimal performance.

2. Ongoing Brand Approvals: We are committed to continuous examination and validation of other inverter brands to expand the range of supported devices.

3. Customised Support for Various Systems:
a. If your specific inverter brand is not yet supported, please contact our technical support team.
b. We possess the expertise to adjust the software protocol to interface with various systems, providing tailored solutions to meet your unique requirements.

Conclusion: The Bluevolt Link exemplifies our dedication to versatility, innovation, and customer satisfaction, bridling a vast spectrum of inverter charger brands under the Pylon protocol.

Technical Details

Bluevolt Link Technical Details

DC supply	**12VDC to 60VDC**
Overcurrent protection	**Glass fuse inside T2AL250V**
Dimensions	**180 x 100 x 30mm**
Enclosure	**Moulded plastic**
Wall mounting	**Holes in flanges for screws / bolts**
Warranty	**1 year**
Ambient temperature	**-30°C to +70°C**
Environmental protection	**IP 20 - for indoor use**

Warranty and Repair

Please refer to the warranty document for the Bluevolt Link CAN Bus Controller.

Procedure for Changing the IP Address of Your Bluevolt Link CAN Bus Controller

If the default IP address does not correspond to your network or if there is an IP address conflict, follow the steps below to change the IP address.

Determine a Suitable IP Address
1. Connect Your Computer: Ensure that your computer is connected to the same network as the Bluevolt Link CAN Bus controller.

2. Open Command Prompt on Windows:
a. Hold the **Windows key + R** to open the run dialogue box.
b. Type **CMD** and hit **Enter**.

3. Find IP Address:
a. Type the command **ipconfig** and hit **Enter**.
b. Look for the IPv4 address or default gateway and take note of the first three numbers.
c. Your new IP address will be the first three numbers with a fourth number; we recommend choosing **20** as the fourth number. For example, **X.X.X.20**.

Load New IP Address onto Bluevolt Link CAN Bus Controller

4. Open Device Enclosure:
a. Remove the four screws in the back of the enclosure.
b. Remove the USB flash drive and insert it into your computer.

5. Edit IP Address:
a. Open the text file on the flash drive.
b. Change the number to your new IP address, ensuring that there are no extra spaces or characters. The format should be the four numbers separated by 3 full stops.
c. Safely eject the flash drive from your computer.
d. Replace the flash drive back into the Bluevolt Link CAN Bus controller.

6. Power on the Device:
a. Connect the Bluevolt Link to your network via Ethernet.
b. Type the new IP address into the address bar in your browser.

7. Verify Connection: The Bluevolt Link page should load and look like the page in the screenshot provided below.

Note: If you are still unable to see the web interface, please check your network settings or try a different end number for the IP address using the steps above.

For further assistance or detailed technical support, please refer to the provided documentation or contact your reseller / installer.

Photos